Case Study

Adoption of Renewable Energy and Energy Efficiency Measures

In line with Globe's ambition of reducing its carbon emissions and switching to renewable energy (RE), Globe actively participates in RE programs, adopts energy-efficient measures, and fosters environmental sustainability as a key priority in their operations. Currently, 27 high-energy utilization sites, including its headquarters and data centers, have transitioned to renewable energy through Power Purchase Agreements (PPA) with Retail Electricity Suppliers (RES). This was made possible through the Department of Energy's (DOE) Retail Competition and Open Access (RCOA) and Green Energy Option Program (GEOP) which allows company facilities with monthly average peak demand of 100 KW and above to choose their electricity suppliers.

Globe has included a sustainability criteria as part of its technical evaluation for RES. Sustainability forms more than 50% of the technical criteria and helps identify which RES can supply a facility's electricity demand with clean energy that can be confirmed with Gold Standard-Verified Emission Reduction (VER) certificates or equivalent local renewable energy certificates (REC). Through this, Globe aims to encourage more investments towards clean energy.

Achieved through various Power Purchasing Agreements (PPA) under the DOE's RCOA program and GEOP, this approach enables Globe to choose electricity suppliers with lower-than-market rates. The associated cost of installing/replacing/re-programming RCOA and GEOP-compliant meters is borne by power companies, requiring no additional investment from Globe.

Internal assumptions have been made to estimate the cost avoidance from using renewable energy.

Risk Management

Globe continues to undertake climate risk as part of its Risk Management Process. The company focuses on identifying its vulnerability to threats involving climate-related physical risks (e.g. coastal flooding, extreme weather disturbances, etc.) and transition risks (e.g. carbon tax, technology, etc.) that could negatively impact both Globe's revenue and reputation, affecting its services.

Globe's detailed annual risk refresh exercise and biennial sustainability materiality assessment identifies Climate Risk as one of its material ESG-related risks. The company ensures its approach to climate-related risk assessment considers both operational and strategic level impact as this supports the company's efforts to improve resilience and limit business disruption.

Globe's climate adaptation plan looks at top climate risks and fortifies the climate readiness of the company. In parallel, the company has been working towards building resilience into its network and supporting infrastructure and processes through the implementation of appropriate measures. (Refer to "Climate Adaptation Solutions" under Manufactured Capital for more information.)

The company utilizes other external resources in identifying potential climate-related risks and opportunities:

1. Globally-recognized reporting frameworks that support tracking of climate action initiatives (e.g. CDP, MSCI, etc.)
2. Publicly available climate change publications and data (i.e. Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) climate change reports, IPCC Assessment Reports, etc.)
3. Publicly available climate change reports specific to the telecommunications sector and related sectors to the business (i.e. GSMA, ITU)

Central to Globe's risk management strategy is the company's goal to increase awareness and understanding of climate-related risks and opportunities both within, and external to the company, resulting in more effective risk and opportunity management and more informed strategic planning.

Targets and Metrics

As part of its commitment to set science-based targets through the SBTi, the company has identified an interim voluntary reduction target of 4.2% linear annual reduction rate (LARR) for its Scope 1 and 2 emissions. This is in alignment with the SBTi's minimum annual linear reduction rate for the 1.5˚C global warming scenario. Globe accounts for these emissions in accordance with the GHG Protocol Standard.

Summary of Scope 1 and Scope 2 GHG Emissions in tCO_2e

Category	2021	2022	2023
Scope 1[a]	**51,139.43**	**54,196.75**	**44,172.56**
Fuel Combustion (Stationary)[b]	41,877.33	45,025.25	35,411.91
tCO_2 (Carbon Dioxide)	41,298.56	44,402.75	34,968.57
tCH_4 (Methane)	4.43	4.68	4.39
tN_2O (Nitrous Oxide)	574.35	617.82	438.95
Fuel Combustion (Mobile)[c]	**5,281.63**	**6,300.22**	**6,478.87**
tCO_2 (Carbon Dioxide)	5,218.71	6,228.12	6,412.90
tCH_4 (Methane)	6.06	8.40	8.69
tN_2O (Nitrous Oxide)	56.86	63.70	57.27
Fugitive - Refrigerants[d]	**3,980.47**	**2,871.28**	**2,281.78**
Scope 2[e]	**457,302.65**	**431,790.91**	**353,570.72**
Location-based[f]	522,939.07	517,382.47	421,725.85
Market-based[g]	457,302.65	431,790.91	353,570.72
Total emissions	**508,442.08**	**485,987.66**	**397,743.28**
GHG emissions intensity (tCO_2e/Billion Pesos Gross Service Revenue)	**3,339.24**	**3,076.28**	**2,450.67**

[a] Restated emission values for Stationary and Mobile emissions using latest emission factors (i.e. BEIS 2023). This includes the equivalent emissions of the respective GHGs: Carbon Dioxide (CO2), Methane (CH4), and Nitrous Oxide (N2O).
[b] Stationary emissions are emissions coming from the company's genset fuel consumption across its network facilities (i.e. core network, cell sites, etc.), corporate offices, and mixed-used facilities. Values for 2022 excludes consumption associated with Typhoon Rai (Super Typhoon Odette) and sites ported over to TowerCos in 4Q 2022. Values for 2023 excludes consumption from sites ported over to TowerCos in 2023.
[c] Mobile emissions are emissions coming from the company's owned and leased fleet. Emission factor used was based on the assumption that both diesel and gasoline fuel used are biofuel blends.
[d] Globe uses cooling systems applicable to each facility (i.e. air, water, refrigerant) Regarding Network refrigerants, the current data are estimates, but moving forward, Globe will enhance its process to calculate and provide actual data.
[e] Location-based and Market-based emissions are calculated using the Philippine Department of Energy (DOE) 2015-2017 National Grid Emission Factors for both non-renewable and renewable energy sources
[f] Values for 2022 excludes consumption from sites ported over to TowerCos in 4Q 2022. Values for FY 2023 excludes consumption from sites ported over to TowerCos in 2023 and data centers that have been transferred to the control of STT-GDC.
[g] Market-based emissions exclude all renewable energy consumption from Power Purchase Agreements (PPA) and retired RECs
** The greenhouse gas (GHG) emissions data for 2023 is based on the voluntary interim reduction goal of achieving a 4.2% linear annual reduction rate (LARR) for Scope 1 and 2 emissions. The Science Based Targets initiative (SBTi) approved the net-zero target for 2050 in March 2024. This validated target will be implemented for reporting in the next fiscal year, 2024.*

In 2023, Globe achieved an 18% reduction in its combined Scopes 1 and 2 carbon emissions from 2022. This significant reduction can be primarily attributed to the sale and transfer of operations of towers during the year, coupled with the company's energy management programs and continued shift to renewable energy.

Furthermore, the ownership of data centers has been transitioned to STT-GDC, leading to the reclassification of data center emissions under Scope 3, specifically Investments, in 2023. Previously, these were accounted accounted for within Globe's Scopes 1 and 2.

For Scope 1, there was a notable decline in emissions from stationary sources. This reduction can be attributed to the operational transfer of the sold towers, and potentially, a decrease in incidents necessitating the use of generator sets (e.g., during typhoons).

In 2023, there is a decrease in emissions for Scope 2, influenced by various factors. The decrease can be attributed to the improved accuracy in data reporting, and the increase in renewable energy adoption. Renewable energy adoption increased during the year, driven by the expansion of renewable energy usage across 27 high-energy utilization sites by 2023, the introduction of an energy management system, and the operational transfer of sold towers.

In light of the tower sale and transfer, Globe intends to initiate a rebaselining process moving forward. This next step aims to accurately reflect the progress made in emissions reduction. While progress has been made in reducing emissions, there is still significant work to be done.

Apart from the emissions from the company's telecommunications operations, Scope 1 and Scope 2 emissions across its portfolio companies were also calculated, using the operational control approach. Currently, the combined emissions from Globe's portfolio companies constitute less than 1% of the overall group emissions. Despite this relatively low impact, the company remains committed to accounting for and implementing emission reduction strategies for these entities as they expand. Looking ahead, Globe is committed to exploring and implementing an enhanced data collection system across its entire portfolio.

Beyond operations, Globe also accounted for its Scope 3 emissions. In 2022, it was reported that the baseline Scope 3 emissions from 2021 totaled approximately 2.2 million tCO_2e. However, a subsequent adjustment to 1.8 million tCO_2e, ~77% of the total GHG emissions of Globe, was made after the company's consultant, South Pole, provided updated emission factors.

After the baseline year, emissions were calculated in-house using publicly available emission factors. An initial recalculation was also performed for the 2021 base year, particularly in Categories 1 and 2, to align with the spend-based emission factors used for the in-house calculation in 2022 and 2023.

Summary of Scope 3 GHG Emissions n tCO_2e

Category	2021 (South Pole)	2021 (Recalculated)	2022	2023
Purchased Goods and Services[a]	1,327,126.00	456,725.01	612,959.33	273,259.37
Capital Goods[a]	294,922.00	680,265.14	100,587.53	220,361.88
Fuel- and Energy-Related Activities[b]	166,770.00	166,770.00	101,213.74	82,631.41
Upstream Transportation and Distribution[c]	9,530.00	9,530.00	6,810.40	4,489.57
Waste Generated in Operations[d]	66.00	66.00	106.49	98.37
Business Travel[e]	3,197.00	3,197.00	1,283.06	1,004.59
Employee Commuting[f]	4,618.00	4,618.00	6,470.82	5,191.53
Upstream Leased Assets[g]	2,779.00	2,779.00	30,925.88	37,964.14
Downstream Transportation and Distribution[h]	0.00	0.00	0.00	0.00
Processing of Sold Products[i]	0.00	0.00	0.00	0.00
Use of Sold Products[j]	25,856.00	25,856.00	20,103.97	18,504.50
End-of-Life Treatment of Sold Products[j]	42.00	42.00	17.96	17.85
Downstream Leased Assets[k]	0.00	0.00	0.00	0.00
Franchises[l]	545.00	545.00	11,211.99	10,352.89
Investments[m]	0.10	0.10	154.19	1,283.49
Total emissions	**1,835,451.10**	**1,350,393.25**	**891,845.37**	**655,159.58**

[a] *Calculated from Globe's aggregated spendings per commodity category; 2021 data was recalculated to use the same emission factors (EXIOBASE) used for 2022 and 2023*
[b] *Calculated using the actual fuel and energy consumption of the company*
[c] *Calculated using aggregated spendings for transport and logistics*
[d] *Calculated based on the actual waste generation of the company*
[e] *Baseline value has been updated to remove optional emissions (i.e., accommodation, other travel expenses); Also, there is a change in methodology from full spend-based to hybrid (spend-based for land and sea travel and activity-based for air travel)*
[f] *Baseline value was estimated based on employee survey; Recent values were estimated based on the average distance of each employee from their work location (the mode of commute was determined based on its percentage distribution estimated using the 2021 survey)*
[g] *Calculated using the actual electricity consumption of leased assets/outside the organization such as TowerCos and offices*
[h] *Downstream Transportation and Distribution, which pertains to transport undertaken by the customers themselves (e.g., pick-up at stores), has not been accounted for*
[i] *Scope 3 category not applicable since Globe has no intermediate products*
[j] *Baseline value has been updated to remove optional emissions (i.e., software and app use); Use of Sold Products and End-of-Life Treatment of Sold Products were calculated using the actual quantity of devices sold, their power consumption (based on available information), average usage and weight*
[k] *Emissions for facilities leased by Globe to other companies already included under Scope 1 and Scope 2*
[l] *Calculated based on the electricity consumption of Globe Premium Dealer Stores*
[m] *Calculated based on the investment amount per industry group; 2023 data includes Scopes1 and 2 emissions of STT-GDC, proportional to Globe's equity share*

The emission hotspots remain to be Category 1 (Purchased Goods and Services), Category 2 (Capital Goods), and Category 3 (Fuel- and Energy-related Activities). The company saw an emission reduction of around 27% between 2023 and 2022 and 34% between 2022 and the base year (2021). These reductions were primarily driven by decreased expenditures in both operations and capital, directly impacting Purchased Goods and Services and Capital Goods. In the future, Globe aims to identify top suppliers to implement an enhanced data collection system, ensuring a more accurate year-on-year calculation using supplier-specific data.

Category 3 (Fuel- and Energy-related Activities) also witnessed reduced emissions, mainly due to the operational transfer of sold towers. Category 8 (Upstream Leased Assets) increased its emissions due to the increase in the number of TOWERCOs in 2023.

Initial results show that the company has approximately 655,159.58 tCO_2e of Scope 3 emissions in 2023, equivalent to around 62% of the total emissions.

Moving forward, Globe will continue refining its Scope 3 emissions data, and any necessary rebaselining in accordance with the Science-Based Targets initiative (SBTi) will be undertaken.

Addressing Scope 1 Direct Emissions

SCOPE 1 Direct Emissions

- **Consumption of fuel from facility gensets**
- **Consumption of fuel from fleet vehicles**
- **Consumption of refrigerants from cooling systems**

Hybrid Solar Power Solution

Globe embraces hybrid solar power, advances decarbonization, and network resilience. This innovative project is a response to the global rise in fuel costs, particularly those impacting the operation of cell towers. At the same time, it is designed to reduce Globe's carbon emissions and address challenges brought by the impact of climate change such as outages from strong typhoons.

Shifting to renewable energy, such as this cell site in Batangas City, is one of the key strategies of Globe to reduce its GHG emissions.

The project aims to deploy solar power systems in 1,004 cell sites and 19 core sites that are Globe-owned. Construction of the solar energy solution will be led by Micro Power Philippines (MPP) and is scheduled to begin in February 2024. Moving forward, the goal is to deploy the same technology to approximately 7,000 sites sold to TowerCos.

Globe is adopting a new business model that allows for partner financing of the design, construction, and maintenance of the project.

Scope 1 Emissions Performance

Fuel Consumption within the Organization (in Liters)	2021	2022[a]	2023[b]
Facility Generators			
Diesel	15,429,139.50	16,599,220.67	13,257,357.60
Gasoline	56,986.34	49,390.01	66,390.30
Fleet Vehicles			
Diesel	1,395,464.37	1,523,306.84	1,549,976.51
Gasoline	792,033.24	1,111,939.95	1,005,065.00

[a] *Values for FY 2022 excludes fuel consumption associated with Typhoon Rai (Super Typhoon Odette) and from sites ported over to TowerCos in 4Q 2022.*
[b] *Values for FY 2023 excludes consumption from sites ported over to TowerCos in 2023 and data centers that have been transferred to the control of STT-GDC*

Electric Vehicle for Employee Shuttle Service

In 2022, the Philippine Electric Vehicle Industry Development Act (EVIDA) was enacted requiring that at least 5% of owned or leased fleets be EV within the prescribed timeframe of the Comprehensive Roadmap for the Electric Vehicle Industry (CREVI). In line with the EVIDA, the company developed its initial EV transition roadmap as it looks to shift its fleet to EV. As a start, Globe partnered with Global Electric Transportation (GET) to pilot EV shuttles for interoffice travel of its employees. Started in January 2023, two electric vehicles (EVs) take up to 30 Globe employees at a time for trips around Globe headquarters in Bonifacio Global City and its offices in the cities of Makati and Mandaluyong.

Electric vehicles are deployed for interoffice travel of employees. These have also been used in marquee events of Globe such as the 917day celebration to promote sustainable transport to its customers.

Gogoro Smartscooter®

Advancing the adoption of EVs in the Philippines, Globe, through its portfolio company 917Ventures and in collaboration with Ayala Corporation and Gogoro Inc., have launched Gogoro Smartscooter® and battery-swapping services in the country. The electric scooters provide an eco-friendly and cost-effective alternative to Filipino riders. Apart from this, the first Gogoro battery-swapping station was launched at The Globe Tower, marking the start of a network that will eventually be available throughout the country. The pilot test resulted in 3,316 kg of carbon emissions avoided (based on calculations of Gogoro), 2,603 batteries swapped, and a total distance of 42,399 km ridden.

Gogoro Founder and CEO, Horace Luke, and Globe President and CEO, Ernest Cu, test out the Gogoro Smartscooter®.

Gogoro's swap-and-go technology allows riders to swap out depleted batteries for charged ones in just seconds.

Deploying Green Network Solutions to Improve Energy and Resource Efficiency

Since 2014, Globe has deployed over 12,141 green network solutions. These alternatives use cleaner fuel with lower emissions, consume less diesel fuel, and provide energy-efficient heat removal compared to their traditional counterparts.

In 2022, the company started deploying sodium nickel batteries, a new green energy solution, in its critical sites. This reduces the need for frequent replacements and to date, more than half of its core network sites are using it. Since these batteries are 100% recyclable and have a 20-year lifespan, it doubles that of the previously deployed Valve Regulated Lead Acid (VRLA) battery.

DC-Hybrid Gensets
Deployed in 2014, Direct Current (DC)-hybrid consists of DC gensets paired with deep cycle batteries which reduced diesel fuel use.

DC Gensets
Deployed in 2017, these gensets consume less fuel compared to an equivalent Alternating Current (AC) genset.

Free Cooling System
FCS is an alternative to air conditioning units (ACU). Free cooling means that the power consumption of the system is reduced to the necessary minimum by suitable means.

Lithium-ion Batteries
These batteries act as replacements to lead-acid batteries to provide back-up power to cell sites. There is less waste generated over time while having a more efficient back-up power.

Fuel Cell System
Started in 2014, Fuel Cell Systems were deployed as a green alternative to diesel gensets to provide backup power to cell sites. These systems have lower maintenance costs, operate silently, and emits less emissions by using Methanol and Deionized (DI) Water Blend as fuel compared to traditional generator sets.

Addressing Scope 2 indirect Emissions

SCOPE 2 Indirect Emissions

Electricity Consumption from the National Power Grid

Electricity Consumption from Renewable Energy via Power Purchase Agreements (PPA)

- **CORE FACILITIES**
- **DATA CENTERS**
- **CELL SITES**
- **CORPORATE OFFICES**
- **MIXED-USED FACILITIES**

Harnessing Energy Efficiency and Conservation through an Energy Management System

Increased network builds, expansion of coverage, and the return to office saw Globe's electricity consumption increase in 2022. However, the sale of Globe's towers and transfer of its operational control shifted some of its energy consumption to its leased assets. Beyond that, Globe's approach for tackling climate change and network transformation both heavily rely on energy efficiency and the transition to renewable energy which contributed to a decrease in its Scope 2 emissions.

The company constantly aims to build its systems in an energy-efficient manner to benefit both its business and the environment as a responsible organization. Additionally, Globe has embraced network modernization, allowing it to swap out outdated equipment that has reached the end of its useful life with newer models that have a higher capacity to its power-consumption ratio. Globe supports the government in the strengthening the implementation of RA 11285 or the Energy Efficiency and Conservation Act by participating in public consultations on its supporting policies to ensure clarity and encourage continued adherence of companies.

Scope 2 Emissions Performance

Electricity consumption (in kWh)	2021	2022[a]	2023[b]
Electricity consumption	**728,901,141.61**	**729,236,993.80**	**595,209,202.86**
Electricity consumption from Network Facilities	647,366,377.58	645,048,852.97	522,524,662.76
Electricity consumption from Corporate and Mixed-use facilities	81,534,764.03	84,188,140.83	72,684,540.10
Total electricity consumption from the grid	**626,464,273.95**	**595,656,720.71**	**488,841,469.71**
Total electricity consumption from renewable energy sources	**102,436,867.67**	**133,580,273.09**	**106,367,733.15**

[a] *Values for FY 2022 excludes fuel consumption associated with Typhoon Rai (Super Typhoon Odette) and from sites ported over to TowerCos in 4Q 2022.*
[b] *Values for FY 2023 excludes consumption from sites ported over to TowerCos in 2023 and data centers that have been transferred to the control of STT-GDC*

Energy consumption within the organization (in GJ)[a]	2021	2022[a]	2023[b]
Energy consumed by network facilities	2,330,518.95	2,322,175.87	1,881,088.79
Energy consumed by corporate facilities and mixed-use	293,525.15	303,077.31	261,664.34
Net energy consumption	**2,624,044.10**	**2,625,253.18**	**2,142,753.13**

[a] *Values for FY2022 excludes consumption from sites ported over to TowerCos in 4Q 2022.*
[b] *Values for FY 2023 excludes consumption from sites ported over to TowerCos in 2023 and data centers that have been transferred to the control of STT-GDC*

ISO 50001: Energy Management System

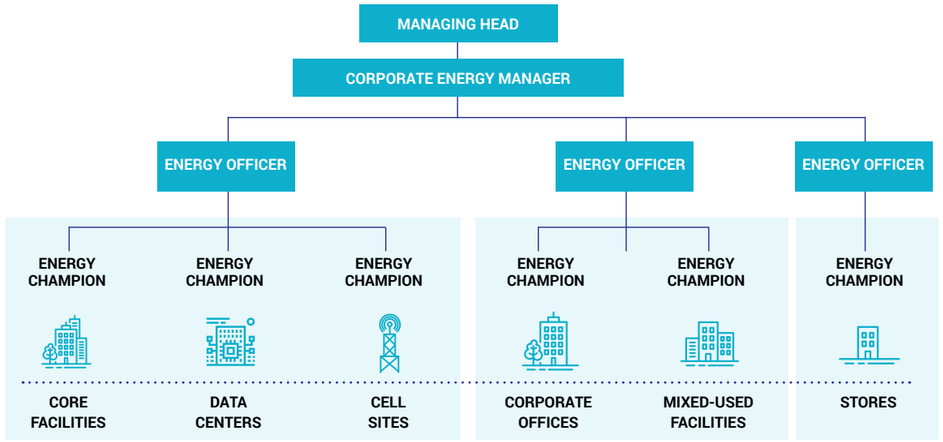
In 2021, Globe implemented an enterprise-wide Energy Management System (EnMS) and secured the ISO 50001: 2018 certification for EnMS in 2022 . Through this, the company aligned its operations to a management framework that contributes to the Net Zero target, prioritizing optimum energy efficiency, responsible energy procurement, and maximized equipment utilization.

Provisions of this management system have been integrated in the company's updated Environmental Sustainability Policy .

"We are committed to continuing our collaboration with all relevant stakeholders to amplify our contributions to climate action. It's through these collective efforts that we can develop effective solutions and ensure the successful attainment of our shared goals for a sustainable future."

Yoly Crisanto
Globe Chief Sustainability and Corporate Communications Officer

The EnMS promotes energy efficiency and conservation and the use of alternative power and energy sources in the company's operations, in compliance with Republic Act 11285 or the Energy Efficiency and Conservation Act.



The EnMS is governed by management representatives from relevant departments in the implementation programs. The appointed Corporate Energy Manager reports to the managing heads and is responsible for overseeing compliance with RA 11285. They are also tasked to ensure that department-level Energy Officers and facility-level Energy Champions provide accurate energy data monitoring and tracking for progress reporting purposes.

The designated Energy Officer appoints the facility-level energy champions, ensures energy data monitoring and tracking, and checks the Annual Energy Efficiency and Conservation Report (AEECR) and Annual Energy Utilization Report (AEUR) prior to submission to the Corporate Energy Manager. Together with the facility-level energy champion, they implement energy efficiency programs in their sites in support of the EnMS implementation.

Globe Shifts Facilities to Renewable Energy

Globe aims to source 44% of its electricity from RE by 2030, and 98% by 2050, in accordance with regulatory timeline movements. As a priority in its decarbonization journey, Globe began acquiring renewable energy in 2019 with Power Purchase Agreements (PPA)-verified carbon offsets with the Department of Energy's Green Energy Option Program (GEOP) and Retail Competition and Open Access (RCOA), which give consumers with a monthly average peak demand of 100 kilowatts (KW) and above the option to engage directly with energy suppliers.

Through partnering with Retail Energy Suppliers (RES) like ACEN, Globe utilizes the suppliers' solar energy and geothermal plants, and purchase renewable energy that could potentially encourage more investments toward clean energy in support of the Philippines' commitment to the Paris Agreement, through the Nationally Determined Contribution (NDC). A boost in the demand of clean energy sources can potentially increase investments in renewable energy, making it more affordable, and reduce the country's contribution to global carbon emissions.

During the year, Globe has shifted its Iloilo and Bacolod sites and another facility located in Batangas to renewable energy.

Intelligent Monitoring Systems for Energy Efficiency and Climate Action

Globe is continuously investing in innovations to create energy-efficient operations. Energy-efficient equipment and monitoring systems have been deployed across Globe's facilities as part of its network transformation and climate action strategy.

REMOTE MONITORING SYSTEM (RMS) FOR CELL SITES	Enables remote monitoring and control of on-site equipment and energy usage on a daily basis
COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEM (CMMS) IN CORE FACILITIES	A unified webtool built to serve as the central database for inventory, reports, and manuals of critical network facilities
DATA CENTER INFRASTRUCTURE MANAGEMENT (DCIM)	Automates real-time monitoring of energy consumption, improves data center design, and promotes proactive maintenance and realtime alert management

From Microwaves to Fiber Optics

Globe has migrated its site backhaul from utilizing microwave antennas into a fully redundant fiber optic cable solution as it intensifies the shift to green technologies. By moving away from long-haul microwave sites characterized by multiple big antennas and outdoor units that contribute to higher power consumption, this shift not only helps with reliability but also reduces energy usage.

Apart from its sustainability feature, the initiative boosts network capacity with a higher bandwidth that would support the increasing demand for data in the country.

Nokia AVA Energy Efficiency

Globe remains on the lookout for solutions that help reduce energy consumption without compromising network performance.

With this, the company has leveraged Nokia AVA Energy Efficiency Software-as-a-Service (SaaS), harnessing AI and machine learning algorithms to automatically power down equipment during idle periods. This initiative has translated into annual power savings ranging from 3-6%. Furthermore, Globe has integrated this solution into its SaaS model, offering it on a subscription basis. This approach has allowed the company to avoid large capital expenditures and on-site software maintenance.

Energy Efficiency in Globe Wireline and Wireless Access Sites

During the year, Globe Wireline and Wireless Access Sites also embraced energy efficiency to reduce GHG emissions and improve cost optimizations.

Energy-efficient technologies

Initiative	Description
Advanced BTS Power-Saving Technique	By tapping into the power-saving capabilities of the company's Base Transceiver Stations (BTS), Globe has adopted smart strategies like automatic shutdown during low-traffic periods and advanced symbol power-saving methods.
AI/ML-Driven Energy Management	The integration of Artificial Intelligence (AI) and Machine Learning (ML) are leading the company's energy-saving objective. Globe's system employs AI algorithms to forecast network usage and finely tune Power Amplifier operations.
Modernization for Sustainability	Globe has replaced outdated hardware with next-gen, energy-efficient alternatives. This modernization leap is more than an upgrade—it is our statement as industry leader in sustainable telecom operations.
Strategic Decommissioning for Streamlined Operations	The company is rigorously decommissioning inactive and outdated equipment and technology, to cut down on redundant energy use.
Data Analytics and Crowdsourcing	By analyzing network data, the company pinpoint areas for optimization, reducing the need for extensive drive tests. This not only boosts network efficiency but also underscores Globe's commitment to sustainable practices by minimizing physical testing.

Addressing Scope 3 Indirect Emissions

SCOPE 3 Indirect Emissions: Top contributors

- **Purchased Goods and Services**
- **Capital Goods**
- **Fuel and Energy-related Services**
- **Upstream Leased Assets**
- **Use of Sold Products**

With the majority of the total emissions classified under Scope 3, Globe will be working towards emission reduction across its value chain. Looking at the emission hotspots across the fifteen categories and based on industry trends, Globe will emphasize initiatives that address emissions from Purchased Goods and Services, Capital Goods, Fuel- and Energy-Related Activities, Upstream Leased Assets, and Use of Sold Products.

Moving Towards a Sustainable Supply Chain

Sustainable Supply Chain Policy Commitment

By enhancing its supply chain policies, Globe aims to mobilize its vendors and suppliers to integrate sustainability in their operations. During the year, Globe released its **Sustainable Supply Chain Policy Commitment** that reinforces its adherence to sustainable practices across all operational areas, thereby enhancing both business resilience and delivering environmental and social benefits.

Through this policy commitment, Globe will exercise enhanced supplier due diligence, selecting vendors based on a multifaceted assessment that scrutinizes their sustainability

commitments, practices, and overall performance. Globe is also reinforcing the importance of the **Supplier Code of Ethics (SCoE)**, expecting all accredited suppliers to adhere to it.

Under its strengthened policy, Globe reiterates the environmental management provisions of the SCoE, encouraging vendors to align with it in support of the company's climate action roadmap.

SCOE Provision	Requirement
Environmental Management System	Implement an environmental management system and ensure compliance with all applicable environmental laws, permits, and reporting requirements.
Waste and Management Disposal	Ensure proper disposal of wastes and other materials posing a hazard to the environment or human health and safety
Air emissions	Monitor and implement programs to reduce greenhouse gas emissions generated from their operations
Energy, Water, and Resource Efficiency	Work to reduce consumption of resources including raw materials, energy and water, across a product's life cycle.

Sustainable Procurement

Globe has established sustainability criteria for its procurement processes, which covers retail electricity suppliers and network equipment and software vendors. By prioritizing sustainability in its procurement, Globe ensures that its products and services support its corporate commitment to achieve net zero by 2050.

For potential Retail Electricity Suppliers under Sustainable Power Purchasing, Globe assesses vendors based on both Financial and Technical Criteria, with sustainability accounting for 32.5% of the overall evaluation criteria. For network equipment and software vendors, sustainability accounts for 10% of the overall evaluation.

Moving forward, the company will work towards developing a high-level sustainability criteria applicable across the company's partners which will be integrated in partner contracts. Project-specific sustainability criteria will be developed as necessary.

Internal Carbon Price Pilot

Within the next three years, Globe plans to integrate an Internal Carbon Price (ICP) mechanism in its operations to achieve its Net Zero ambition. ICP is a mechanism wherein companies can put a value on their GHG emissions in a way that drives positive change in their business. Its implementation will focus on 'needle-moving' spends emphasizing the need for behavior change of the own company prior to the customers.

Globe intends to pilot an ICP using the shadow pricing method, which establishes a hypothetical cost of carbon emissions for awareness and potentially behavior change. Globe anticipates that ICP will:

- Enable business units to pursue more energy-efficient options
- Reinforce greener decisions given the greater amount in emissions savings
- Encourage business units to explore green initiatives to build a stronger case from observed savings and higher level of support

Environmental Management

Environmental Management System

Globe adopts a strategic approach that prioritizes environmental impact management and mitigation. Using its Environmental Management System, Globe navigates its operations with a dynamic roadmap, steering the company not only towards compliance but also surpassing regulatory requirements.

ISO 14001:2015 Environmental Management System

Globe has been implementing an enterprise-wide certified ISO 14001: 2015 Environmental Management System (EMS) since 2019. This management system covers operational environmental management including solid waste, hazardous waste, and water consumption management.

Environmental Compliance

During 2023, the company reported zero fines and sanctions imposed due to non-compliance with environmental laws and regulations.

Environmental Compliance Highlights

2021	2022	2023
Zero non-compliances with environmental rules and regulations	**Zero** non-compliances with environmental rules and regulations	**Zero** non-compliances with environmental rules and regulations
Zero total monetary value of significant fines	**Zero** total monetary value of significant fines	**Zero** total monetary value of significant fines
Zero total number of non-monetary sanctions	**Zero** total number of non-monetary sanctions	**Zero** total number of non-monetary sanctions
Zero total number of cases brought through dispute resolution mechanisms	**Zero** total number of cases brought through dispute resolution mechanisms	**Zero** total number of cases brought through dispute resolution mechanisms

The company ensures no significant instances or incidences of non-compliance with environmental laws and regulations. Any administrative non-compliance with environmental laws, such as the lack of permits or submitter reports, is appropriately addressed.

Environmental Sustainability Policy

Globe acknowledges its responsibility to uphold the highest standards of environmental management and stewardship to support a low-carbon future for its stakeholders. Its commitment to reduce and manage its environmental footprint is outlined in Globe's Environmental Sustainability Policy.

CONTENTS OF THE UPDATED GLOBE ENVIRONMENTAL SUSTAINABILITY POLICY

- → Climate Change and Energy Efficiency
- → Resource Efficiency and Natural Resource Conservation
- → Monitoring, Reporting, and Stakeholder Engagement

Waste Management

Solid Waste Management

Globe adheres to the provisions of Republic Act No. 9003, also known as the Ecological Solid Waste Management Act of 2000, which mandates proper segregation and disposal of solid wastes. In line with this, Globe implements a comprehensive approach that includes waste minimization at the source, effective waste segregation, and safe waste disposal. Globe's sites also have Materials Recovery Facilities (MRF) to ensure that solid wastes generated are properly segregated before collection and disposal. The amount of solid waste generated has decreased by 22% from 2022. Globe remains committed to proper solid waste management and is working towards further minimizing its waste.

Total solid waste generation (in tonnes)	2021	2022	2023
Recyclables Generated	5.08	2.17	6.57
Biodegradables Generated[a]	-	14.91	19.64
Residuals Generated	81.03	186.48	132.49
Total Solid Waste Generated	**86.11**	**203.56**	**158.70**
Total Solid Waste Diverted from Disposal	5.08	2.17	6.57[b]
Total Solid Waste Directed to Disposal	81.03	201.39	152.13

[a] *Biodegradables were previously categorized within residual waste*
[b] *Improved data collection for 2023. Moving forward, further enhancement in data collection will be made.*

Hazardous Waste Management

Globe complies with Republic Act No. 6969, also known as the Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990, which requires regular monitoring and proper disposal of hazardous wastes. To ensure compliance, Globe employs accredited pollution control officers (PCOs) and partners with DENR-accredited treatment, storage, and disposal (TSD) facilities and transporters. Globe also ensures proper disclosures and proactively mitigates any potential environmental impact arising from its operations.

Globe's waste includes used lead acid batteries from telecommunication equipment, rectifiers, and generator sets, as well as electronic and electrical wastes from operations. Globe also has waste oils from preventive maintenance activities of power generator sets and busted fluorescent lamps (BFLs).

Total hazardous waste generation (in tonnes)	2021	2022	2023
Used Oil Generated	8.41	12.96	22.66
E-Waste Generated	139.17	147.46	164.87
Used Batteries Generated	111.07	422.13	708.51
BFLs Generated	0.23	-	0.33
Total Hazardous Waste Generated	**258.88**	**582.55**	**896.37**
Total Hazardous Waste Diverted from Disposal	258.8	582.5	896.37

Water Resource Management

Addressing water stress at an early stage is a top concern for Globe as this has been identified as one of the company's top climate-related physical risks. In 2023, the company's water consumption was 126,109.15 cubic meters. In terms of water intensity, there has been a slight increase of 8% from 2022. Despite this, the company remains committed to implementing measures that can help conserve water within its operations.

Total water consumption (in cubic meters)*	2021	2022	2023
Water Consumption in Network Facilities	26,912.55	34,979.16	26,183.75
Water Consumption in Corporate Offices and Mixed Use	87,541.00	76,081.60	99,925.40
Total Water Consumption	**114,453.55**	**111,060.76**	**126,109.15**
Water Intensity (cubic meter/₱ million service revenue)	**0.71**	**0.68**	**0.74**

** Water consumption is equal to water withdrawal*